In the Claims

The status of claims in the case is as follows:

We claim:

- 1 1. [Currently amended] A decoupling capacitor,
- 2 comprising:

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- a fixed resistance in series with said capacitor, said 3 capacitor formed by a polysilicon layer and a diffusion 4 5 layer, said fixed resistance formed by contacts connecting said polysilicon layer to a first voltage б 7 level buss and said diffusion layer to a second voltage level buss said capacitor connected between said first 8 and second voltage level busses such that majority 9 carriers accumulate at a surface of a substrate 10 underneath a gate oxide layer without forming an 11 12 inversion layer; and
- said contacts being of location and capacity for
 protecting surrounding circuits in the event there is a
 defect shorting said busses together by limiting defect
 current while allowing said capacitor to function at a
 frequency sufficiently high to suppress noise on said
 first and second busses to a value which achieves bus
 stability.

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- 1 2. [Previously presented] The decoupling capacitor of
- 2 claim 1, further comprising:
- 3 said contacts including a first set of contacts to a
- 4 first voltage and a second set of contacts to a second
- 5 voltage;
- 6 a defect leakage current limiting path including said
- 7 first set and said second sets of contacts separated by
- 8 a distance optimized to cause a defect shorting said
- 9 polysilicon layer to said substrate to force defect
- 10 current to travel from said first set of contacts
- 11 through a section of the substrate, then to the
- 12 polysilicon through the defect, and then along the rest
- of the polysilicon layer to said second set of
- 14 contacts.
 - 1 3. [Original] The decoupling capacitor of claim 2,
 - 2 further comprising:
 - 3 said first set of contacts and said second set of
 - 4 contacts determined in number and location to provide
 - 5 preselected minimum and maximum resistance values
- 6 between said first and second sets of contacts, said
- 7 minimum resistance value for achieving a preselected
- 8 maximum leakage current through any defect site in said

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- polysilicon layer, and said maximum resistance value 9
- for achieving a preselected overall decoupling RC 10
- factor sufficient for a minimum RC network bandwidth. 11
 - [Original] The decoupling capacitor of claim 3, 1
- further comprising providing said first and second sets of 2
- contacts in sufficient number to effectively achieve total 3
- contact resistance less than 10% of combined sheet
- resistance of said diffusion and polysilicon layers across a 5
- distance separating said first and second sets of contacts. 6
- The decoupling capacitor of claim 2, 5. [Original] 1
- further comprising providing N pairs of contacts in said 2
- sets of contacts and placing said first and second sets of 3
- contacts separated by a distance K sufficient to achieve a 4
- leakage limiting resistance of R and a bandwidth limiting 5
- resistance of R/2. 6
- [Original] The decoupling capacitor of claim 2, 6. 1
- further comprising providing a technology-dependent number 2
- of contacts selected in number sufficient to achieve total 3
- contact resistance less than 10% of combined sheet 4
- 5 resistance of said diffusion and polysilicon layers across a
- distance separating said first and second sets of contacts. 6
- [Withdrawn] A method for determining the number and 1 7.
- 2 position of contacts in a decoupling capacitor including a
- 3 polysilicon layer and a diffusion layer, comprising:
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4	determining a maximum allowable detect current I for
5	IDDQ testing of said capacitor;
6	determining a minimum sheet resistance R to achieve
7	said defect current I;
8	determining minimum distance K between first and second
9	sets of said contacts to achieve said minimum sheet
10	resistance R;
11	determining number of said contacts N in said sets of
12	contacts to provide sufficiently low contact resistance
13	to assure said minimum sheet resistance R dominates
14.	total resistance between said first and second sets of
15	contacts; and
16	providing in said decoupling capactior contact sites of
17	sufficient area to accommodate N said contacts with
18	said first and second sets of said contacts separated
19	by at least distance K.
1	8. [Withdrawn] A program storage device readable by a
2	machine, tangibly embodying a program of instructions
3	executable by a machine to perform method steps for
4	determining the number and location of contacts in a
5	decoupling capacitor including a polysilicon layer and a
6	diffusion layer, said method comprising:
7	determining a maximum allowable defect current I for
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8	IDDQ testing of said capacitor;
9	determining a minimum sheet resistance R to achieve
10	said defect current I;
11	determining minimum distance K between first and second
12	sets of said contacts to achieve said minimum sheet
13	resistance R;
	•
14	determining number of said contacts N in said sets of
15	contacts to provide sufficiently low contact resistance
16	to assure said minimum sheet resistance R dominates
17	total resistance between said first and second sets of
18	contacts; and
19	defining in said decoupling capacitor contact sites of
20	sufficient area to accommodate N said contacts with
21	said first and second sets of said contacts separated
22	by at least distance K.